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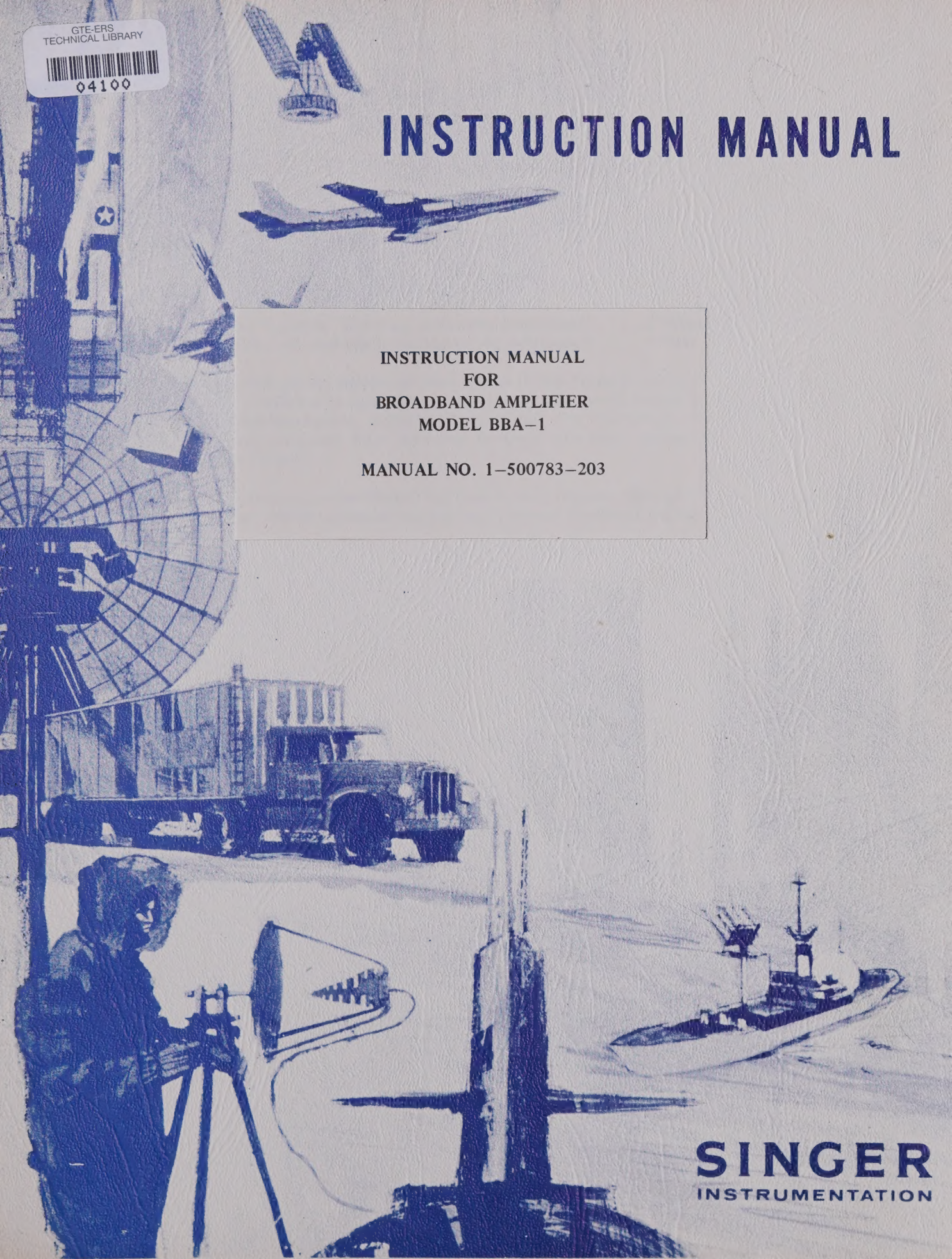
INSTRUCTION MANUAL



INSTRUCTION MANUAL
FOR
BROADBAND AMPLIFIER
MODEL BBA–1

MANUAL NO. 1–500783–203

SINGER
INSTRUMENTATION

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FOR
BROADBAND AMPLIFIER
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SERIAL NO. _____

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SINGER
INSTRUMENTATION

The Singer Company, Los Angeles Operation • 3211 South La Cienega Blvd., Los Angeles, Ca. 90016

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THE SINGER COMPANY
LOS ANGELES OPERATION
3211 S. La Cienega Blvd.
Los Angeles, California 90016

WARRANTY

SINGER INSTRUMENTATION, LOS ANGELES OPERATION, (SELLER) warrants each new instrument to be free from defects in material and workmanship, effective after delivery to the original purchaser as follows:

TCXO Oscillator	2 Years
Sensitive Research™ Electrical Indicating Instruments . . .	2 Years
Other Electrical and Electronic Measuring Instruments . . .	1 Year

Repair or replacement (at our option) without charge (F.O.B. factory) will be effected when our examination satisfactorily indicates that defects are due to workmanship or materials. Electron tubes, semiconductors, batteries, fuses, lamps, thermoelements, and RatioTran potentiometers are excluded from warranty coverage. Warranty returns must first be authorized by the factory.

If the instrument or any portion thereof, has been abused, misused, damaged by accident or negligence, or if any serial number or seal has been removed or altered, the warranty is void.

This warranty is in lieu of all other warranties, express or implied INCLUDING THE IMPLIED WARRANTY OF MERCHANTIBILITY, and in no event shall the SELLER be liable for INCIDENTAL OR CONSEQUENTIAL damages and The SELLER neither assumes, nor authorizes any person to assume for them, any other liability in connection with sales of instruments manufactured by SELLER.

THE SINGER COMPANY, LOS ANGELES OPERATION
3211 South LaCienega Boulevard, Los Angeles, California 90016

REPAIR AND MAINTENANCE

Instruments should be returned only on prior authorization from the Singer Representative or the factory. You will be advised of detailed shipping instructions at that time. Please return the instrument to the factory Prepaid. Validity of warranty will be determined by the factory.

Chargeable repairs: If requested, an estimate of charges will be made prior to repairs. Please provide us with the following information in order to expedite the processing of your instrument:

1. Model or Type
2. Serial Number
3. Description of trouble (1)
4. Approximate date instrument was placed in operation.
5. Approximate number of hours in use.
6. Has maintenance action been previously requested.
7. Other comments.

SELLER warrants each instrument repaired to be free from defects in material and workmanship for a period of 90 days.

(1) Include data on symptoms, measurements taken, suspected location of trouble, maintenance action taken and any other relevant data.

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Schematic (Dwg. #3-501119)

DESCRIPTION:

Broadband Amplifier Model BBA-1 provides flat, broadband amplification of 23 dB ±4 dB from 0.1 to 512 MHz. It is all solid-state in design; weighs only 1 3/4 pounds; and, operates over a broad temperature range. It is thus ideal for field usage to increase the sensitivity of other instrumentation or increase the output of signal generators.

The BBA-1 operates from either a 9 VDC or 12 VDC power source. Power consumption is so low that a 9 volt transistor-type battery can be used to supply the BBA-1. Alternatively, a filtered bench DC supply is suitable. Input and Output impedances are 50 ohms.

Input and output connections are made via BNC front panel connectors. The power input connector is Amphenol Type 126.

SPECIFICATIONS:

Frequency Range:	0.1 -500 MHz
Gain:	23 dB ±4 dB
Output Level at 1 dB Gain Compression:	-3 dBm (approximately)
Impedance:	50Ω (nominal) Input and Output
Operating Temperature Range:	-5°C to +50°C
Power Requirements:	+9 VDC or +12 VDC (Neg Gnd) at approximately 23 mA
Connectors:	
Power:	Amphenol Type 126
Input and Output:	BNC
Dimensions:	3 1/2" H × 6" W × 3 3/4" D
Weight:	Approximately 28 oz.

MODEL BBA-1 PARTS LIST

REFERENCE DESIGNATOR	DESCRIPTION	SINGER PART NUMBER	MANUFACTURER	MANUFACTURER PART NUMBER	QTY
	Connector, RF	1-910043-001	Kings Electronics	KC19-68	2
	Connector, Power	1-910153-001	Amphenol	126-214	1
	Resistor Carbon, 150Ω	1-945000-027	Allen-Bradley	Type CB	1
	Switch, Slide DPDT	1-951002-001	Arnold	A-206068-2	1
	Circuit Board (4-003080-006)				
C1	Capacitor 0.1μF	1-900001-013	Amperex	C280AE	
C2	Same as C1				
C3	Same as C1				
C4	Same as C1				
C5	Same as C1				
C6	Same as C1				
C7	Same as C1				
C8	Same as C1				
C9	Same as C1				
C10	Not used				
C11	Same as C1				
L1	Coil, 4T	1-402869-003			
L2	Coil, 3T	1-402869-001			
L3	Coil 0.22μH	1-906008-001			
L4	Same as L2				
L5	Same as L2				
Q1	Transistor	1-958018-001		2N5179	
Q2	Same as Q1				
Q3	Same as Q1				
R1	Resistor, Carbon, 82Ω	1-945000-024	Allen-Bradley	Type CB	
R2	Resistor, Carbon 390Ω	1-945000-032	Allen-Bradley		
R3	Resistor, Carbon 22K	1-945000-053	Allen-Bradley		
R4	Resistor, Carbon, 4.7K	1-945000-045	Allen-Bradley		

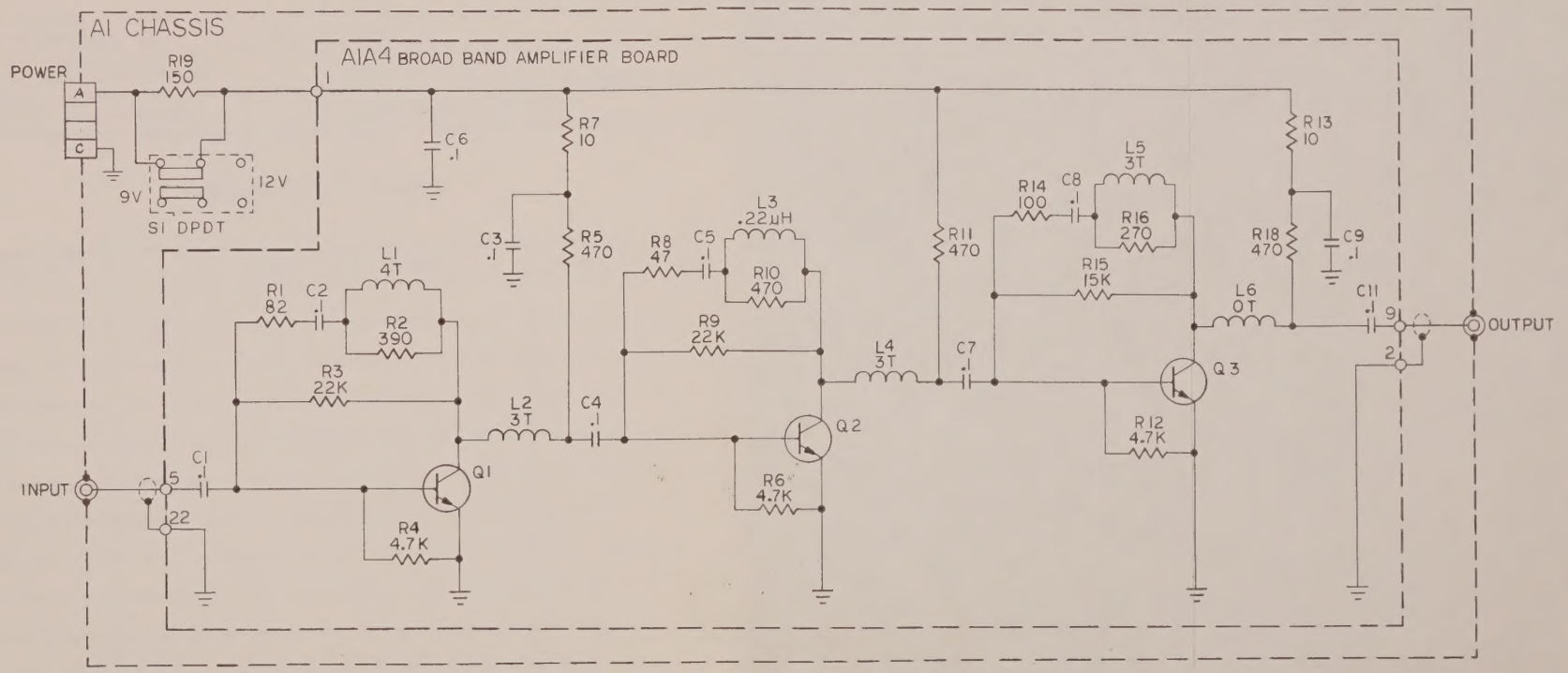
MODEL BBA-1 PARTS LIST (Continued)

REFERENCE DESIGNATOR	DESCRIPTION	SINGER PART NUMBER	MANUFACTURER	MANUFACTURER PART NUMBER	QTY
R5	Resistor, Carbon, 470Ω	1-945000-033	Allen-Bradley		
R6	Same as R4				
R7	Resistor, Carbon, 10Ω	1-945000-013	Allen-Bradley	Type CB	
R8	Resistor, Carbon, 47	1-945000-021	Allen-Bradley	Type CB	
R9	Same as R3				
R10	Same as R5				
R11	Same as R5				
R12	Same as R4				
R13	Same as R7				
R14	Resistor, Carbon, 100Ω	1-945000-025	Allen-Bradley	Type CB	
R15	Resistor, Carbon, 15K	1-945000-051	Allen-Bradley	Type CB	
R16	Resistor, Carbon, 270Ω	1-945000-030	Allen-Bradley	Type CB	
R17	Not Used				
R18	Same as R5				

Accessories:

	Connector, Power (female)	1-910154	Amphenol	126-215	

PROPRIETARY STATEMENT
THIS DOCUMENT DISCLOSES INFORMATION AND DATA IN WHICH THE SINGER CO. HAS PROPRIETARY RIGHTS. NEITHER RECEIPT NOR POSSESSION THEREOF CONFERS OR TRANSFERS ANY RIGHT TO REPRODUCE, USE OR DISCLOSE IN WHOLE OR IN PART EXCEPT BY WRITTEN PERMISSION FROM THE SINGER CO.



LAST REF DES USED	
L6	R19
C11	Q3
	S1

REF DES NOT USED	
C10	R17

5. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN, FOR COMPLETE DESIGNATION PREFIX WITH ASSY NO.
4.
3. ALL TRANSISTORS ARE 2N5179'S
2. ALL CAPACITOR VALUES ARE IN MICROFARADS, 200V
1. ALL RESISTOR VALUES ARE IN OHMS, ±10%, 1/4W

NOTES: UNLESS OTHERWISE SPECIFIED

SINGER
ELECTRONIC PRODUCTS DIVISION
GERTSCH OPERATION, LOS ANGELES, CALIF.

SCHEMATIC
BROAD BAND AMPLIFIER

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CHANGE NOTICE SUMMARY

Revision	Reason for Change	Date of Change

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